

Four New Genera for Northeastern Pacific Prosobranch Gastropods

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ABSTRACT

In order to make the names available for use in a faunistic revision of the northeastern Pacific gastropod fauna, four new genera are proposed. Naticidae: new genus *Benthobulbus*, type species *Choristes carpenteri* Dall, 1896. Eulimidae: new genus *Pseudosabinella*, type species *Sabinella bakeri* Bartsch, 1917. Muricidae, Trophoninae: new genus *Ocenotrophon*, type species *Murex (Ocenebra?) painei* Dall, 1903. Buccinidae: new genus *Retimohnia*, type species *Mohnia frielei* Dall, 1891.

Key words: Northeastern Pacific Gastropoda; systematics; new genera.

INTRODUCTION

In the course of preparing a checklist of the northeastern Pacific gastropod fauna, in which all generic assignments are being re-evaluated, I have been unable to reconcile the allocation of a number of species to the genera in which they have previously been placed. The following new genera have been recognized and are here introduced in advance of that work.

Family NATICIDAE Forbes, 1838

Benthobulbus McLean, new genus

Type species: *Choristes carpenteri* Dall, 1896.

Included species: Type species and *Choristes coani* Marinovich, 1975. Marinovich (1977) treated both species in detail and illustrated their radulae; both were further discussed by McLean (1992).

Diagnosis (modified from that of Marinovich, 1977:338, for "*Choristes*" Carpenter): Shell small to medium in size, globose, thin; whorl moderately inflated, spiral sculpture of weak lirae, suture narrowly channeled. Umbilicus narrow to broad, simple. Inner lip slightly thickened, simple, lacking umbilical callus. Parietal callus thin. Operculum chitinous, entirely filling aperture. Radula with monocuspate rachidian, one monocuspate lateral tooth and two monocuspate marginal teeth per half row.

Remarks: McLean (1992:291) assigned the type species of *Choristes* Carpenter in Dawson, 1872, to the synonymy of *Amauropsis islandica* (Gmelin, 1791), leaving two living eastern Pacific species treated by Marinovich without a genus. Marinovich placed *Choristes* next to *Bulbus* Brown in J. Smith, 1839 (type species *Bulbus smithii* Brown in J. Smith, 1839; = *Natica fragilis* Leach, 1819), noting that only *Bulbus* and the two deep-water eastern Pacific "*Choristes*" species had the monocuspate rachidian tooth. Further remarks on the naticid radula are given by Bouchet and Warén (1993:753), who noted that the first marginal of *Bulbus* has three terminal denticles. The unsatisfactory alternatives to placement of these two species in a new genus would be to place them in *Bulbus*, in which the umbilicus is narrow and filled with callus, or in *Euspira* Agassiz, 1838, in which the rachidian is tricuspsate and shells may be larger and thicker.

Family EULIMIDAE Troschel, 1853

Pseudosabinella McLean, new genus

Type and only known species: *Sabinella bakeri* Bartsch, 1917 (synonyms: *Alaba catalinensis* Bartsch, 1920; *Alaba serrana* Smith & Gordon, 1948). See Abbott (1974:126, fig. 1382).

Diagnosis: Shell thin, whorls rounded, with faintly angulate shoulder; suture deep; final lip inflated and produced anteriorly; umbilical chink present; lip scars slightly raised, variable in position; early whorls dark brown, surface of teleoconch tan.

Remarks: Regarding "*Sabinella*" *bakeri*, Warén (1992:189) commented: "This species probably is an eulimid despite having a rather fragile and irregular shell. I have examined a specimen with dried soft parts and it has a ptenoglossate radula, similar to species of *Eulima*. It can provisionally be placed in *Eulima*." *Pseudosabinella bakeri* differs from typical *Eulima* in having rounded whorls, a projecting and flared final whorl and a brown cast to the shell. In contrast, typical species of *Eulima*, as defined by Warén (1984:43; 1992:179), have straight-sided shells, often with color banding. Warén elected not

to provide a genus for this species until the echinoderm host becomes known, but now endorses the need for a genus (pers. comm.). The species is a fairly common and characteristic member of the Californian faunal province, for which the provision of a genus may perhaps provide impetus toward the eventual discovery of its host.

Family MURICIDAE Rafinesque, 1815

Subfamily TROPHONINAE Cossmann, 1903

Ocenotrophon McLean, new genus

Type and only known species: *Murex (Ocinebra?) painei* Dall, 1903. See Radwin & D'Attilio (1976:123, pl. 20, pl. 20, fig. 8).

Diagnosis: Shell small (length about 15 mm), sculpture of numerous lamellar cords of unequal prominence, crossed by sharply raised ribs, forming nodes at intersections; canal short, closed.

Remarks: The generic allocation of the type species has been uncertain, starting with Dall's original assertion that "it resembles one of the austral trophons in miniature." Dall (1921:159, pl. 6, fig. 1) retained it in *Tritonalia* (ICZN rejected name for what is now *Ocenebra* Gray, 1847), evidently because of the sealed canal, which is characteristic of *Ocenebra* but not of trophonine genera. Radwin & D'Attilio (1976:123) followed Dall and retained it in *Ocenebra* but noted that: "The lamellose shell sculpture and short, stout form suggest affinity with the southern trophons (e.g. *T. geversianus* Pallas, 1774); the fused canal implies an ocenebrine relationship; and the radula favors neither of these possibilities." D'Attilio (1980:6) again treated the species and illustrated the radula, concluding that the radula is in fact close to that of *Trophon geversianus*, and reallocated the species in *Trophon*. That allocation is less than satisfactory because *T. geversianus*, type species of *Trophon*, is large, has a dark colored interior, has an open canal and occurs in the intertidal zone of Argentina in the southern hemisphere. Kool (1993) treated the radula and anatomy of *Trophon geversianus*. *Ocenotrophon* differs from species of *Boreotrophon* Fischer, 1884, (in which spiral sculpture is lacking or does not override the axial lamellae) and from species of *Trophonopsis* Bucquoy & Dautzenberg, 1882 (in which spiral sculpture overrides the axial lamellae) in having a thick final lip and in having a shorter, sealed canal rather than a relatively long open canal. Species of *Boreotrophon* and *Trophonopsis* tend to merge at the subgeneric level, whereas *Ocenotrophon painei* stands well apart from all other boreal trophonine species.

Family BUCCINIDAE Rafinesque, 1815

Retimohnia McLean, new genus

Type species: *Mohnia frielei* Dall, 1891. The holotype has been well figured by Kosuge (1972, pl. 13, fig. 3), showing also the characteristic pattern of the operculum.

Included species: *Urosalpinx carolinensis* Verrill, 1884; *Neptunea caelata* Verrill & Smith, 1880; *Sipho glyptus*

Verrill, 1882; *Mohnia clarki* Dall, 1907; *Mohnia micra* Dall, 1907; *Mohnia hondoensis* Dall, 1913; *Mohnia japonica* Dall, 1913; *Mohnia robusta* Dall, 1913; *Mohnia vernalis* Dall, 1913; *Colus (Latisipho) clementinus* Dall, 1919.

Diagnosis: Shell small, fusiform; whorls rounded, canal short, twisted to left; periostracum thick, adherent; dominant sculpture of strong to faint axial ribs on upper half of whorl, becoming obsolete in some species at later growth stages; spiral sculpture of fine to moderate spiral incisions. Initial whorl of protoconch small, not projecting; operculum subspiral, nucleus away from anterior edge.

Remarks: Species grouped in *Retimohnia* have previously been assigned to *Mohnia* Friele in Kobelt, 1878, by Dall (1913), Radwin (1972), and Tiba & Kosuge (1992). Bouchet & Warén (1985:205) only tentatively included in *Mohnia* three northeastern Atlantic species "for which we could not find a better genus, although we are not satisfied with their position here." The latter three species (*Urosalpinx carolinensis* Verrill, 1884, *Neptunea caelata* Verrill & Smith, 1880, *Sipho glyptus* Verrill, 1882) were treated in detail by Bouchet and Warén and are here allocated *Retimohnia*.

The type species of *Mohnia*, *Fusus mohni* Friele, 1877, has been illustrated by Bouchet & Warén (1985:205, figs. 435, 482, 530-531) and by Tiba & Kosuge (1992:1). In species of *Mohnia* (and the subgenus *Tacita* Lus, 1971, as treated by Bouchet & Warén, 1985:210), the whorls are rounded and the suture deep; spiral sculpture predominates, whereas axial sculpture is limited to fine axial riblets that produce a fine clathrate effect in early stages. The characteristic low protoconch was illustrated by Bouchet & Warén (1985).

Axial sculpture of projecting ribs is the principal sculpture in *Retimohnia*, although in *R. clementinus* it may be weak. The protoconch of Pacific species of *Retimohnia* is eroded in specimens I have examined, but is known from the three Atlantic species illustrated by Bouchet & Warén. The operculum is similar in both genera and the genera are evidently related. As is true of the Atlantic species treated by Bouchet & Warén, the Pacific species of both genera occur in deep water, at abyssal depths or the lower continental slope.

Tiba and Kosuge (1992) placed three species in *Mohnia* that are assignable neither to *Mohnia* or *Retimohnia*: "*Chryso-domus*" *brunneus* Dall, 1877, "*C.*" *virens* Dall, 1877, and "*Mohnia*" *siphonoides* Dall, 1913. I retain the first two in the genus *Retifusus* Dall, 1916 (type species *Tritonium jessoense* Schrenck, 1867, Japan), in which they were retained by Dall (as a subgenus of *Plicifusus* Dall, 1902). These two species are not restricted to deep water and have stronger spiral sculpture than species of *Retimohnia*. The operculum of *Retifusus brunneus*, as figured by Tiba & Kosuge (1992, fig. 10) does not have the nucleus sufficiently distant from the margin to be considered comparable to that of *Retimohnia*. Dall (1913: 502) remarked that the species he then described as

Mohnia siphonoides from 987 fathoms off the Pribilof Islands "would certainly be referred to *Tritonofusus*" [now *Colus* Röding, 1798] if it were not for the operculum. I assign the latter species to *Colus*, and assume that Dall mixed the operculum with that of a different species. With the exceptions above and the type species of *Mohnia*, all other species illustrated by Tiba & Kosuge (1992) as *Mohnia*, are here considered typical species of *Retimohnia*. Bouchet & Warén (1985) described and illustrated several typical species of *Mohnia*. New species of *Mohnia* that I have recognized from the northeastern Pacific will be described separately.

LITERATURE CITED

- Abbott, R. T. 1974. American Seashells, second edition. New York: Van Nostrand Reinhold, 663 pp.
- Bouchet, P. & A. Warén. 1985. Revision of the northeast Atlantic bathyal and abyssal Neogastropoda excluding Turridae (Mollusca, Gastropoda). Società Italiana di Malacologia, Bollettino Malacologica, Supplemento 1, 123-269.
- Bouchet, P. & A. Warén. 1993. Revision of the northeast Atlantic bathyal and abyssal Mesogastropoda. Società Italiana di Malacologia, Bollettino Malacologico, Supplemento 3, 579-840.
- Dall, W. H. 1903. Diagnoses of new shells from the Santa Barbara Channel, California. Proceedings of the Biological Society of Washington 16:171-176.
- Dall, W. H. 1913. New species of the genus *Mohnia* from the North Pacific. Proceedings of the Academy of Natural Sciences, Philadelphia, 65(2):501-504.
- Dall, W. H. 1921. Summary of the marine shell-bearing mollusks of the northwest coast of America, from San Diego, California, to the polar sea, mostly contained in the collection of the United States National Museum, with illustrations of hitherto unfigured species. United States National Museum, Bulletin 112, 217 pp., 22 pls.
- D'Attilio, A. 1980. *Trophon painei* (Dall, 1903): An anomalous murex. The Festivus 12(1):6-9.
- Kool, S. P. 1993. Phylogenetic analysis of the Rapaninae (Neogastropoda: Muricidae). Malacologia 35(2):155-260.
- Kosuge, S. 1972. Illustrations of type specimens of molluscs described by William Healey Dall (North-Western Pacific Gastropoda). National Science Museum, Tokyo, 29 pls. and captions.
- Marincovich, L. N. 1977. Cenozoic Naticidae (Mollusca: Gastropoda) of the northeastern Pacific. Bulletins of American Paleontology 70(294):165-494, pl. 17-42.
- McLean, J. H. 1992. Systematic review of the family Choristellidae (Archaeogastropoda: Lepetellacea) with descriptions of new species. The Veliger 35(4):273-294.
- Radwin, G. E. 1972. The systematic position of *Urosalpinx carolinensis* Verrill, 1884, with comments on the genus *Mohnia* Friele, 1878. Transactions of the San Diego Society of Natural History 16(16):339-342.
- Radwin, G. E. and A. D'Attilio. 1976. Murex shells of the world. Stanford University Press, 284 pp.
- Tiba, R. and S. Kosuge. 1992. Genus *Mohnia* Friele, 1877. North Pacific Shells, no. 18, Occasional Publication of the Institute of Malacology, Tokyo, 26 pp.
- Warén, A. 1984. A generic revision of the family Eulimidae (Gastropoda, Prosobranchia). The Journal of Molluscan Studies, Supplement 13, 96 pp.
- Warén, A. 1992. Comments on and descriptions of eulimid gastropods from Tropical West America. The Veliger 35(3): 177-194.